

METHOD FOR PRODUCING NOVEL DNA SEQUENCES
WITH BIOLOGICAL ACTIVITY

Abstract of the Disclosure

5 A method of obtaining an oligonucleotide capable of carrying out a
predetermined biological function. A heterogeneous pool of oligonucleotides,
 $x + y + z$ nucleotides in length, is first generated. Each oligonucleotide has a 5'
randomized sequence, x nucleotides in length, a central preselected sequence, y
nucleotides in length, and a 3' randomized sequence, z nucleotides in length. The
10 resulting heterogeneous pool contains nucleic acid sequences representing a
random sampling of the 4^{x+z} possible sequences for oligonucleotides of the stated
length. A random sampling of the heterogeneous pool of oligonucleotides is
introduced into a population of cells that do not exhibit the predetermined
biological function. The population of engineered cells is then screened for a
15 subpopulation of cells exhibiting the predetermined biological function. From that
subpopulation of cells is isolated an oligonucleotide containing the preselected
sequence and capable of carrying out the predetermined biological function.

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